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ABSTRACT

A study examined relationships between career maturity and participation in the Future Farmers of America (FFA) and between career maturity and participation in supervised agricultural experience (SAE). The primary hypothesis was that career maturity is positively related to participation in FFA and SAE. A cluster random sample was used with the teacher as the sampling unit and 529 high school agricultural students in Ohio, who were taught by the teacher as the cluster. The Career Development Inventory was used to assess career maturity; information related to independent variables was collected using an instrument developed by the researchers. Data were collected from March through May 1992. Only 495 instruments were completed correctly. Findings indicated that career maturity was associated with the following: participation in FFA, participation in extracurricular activities, participation in career development activities, grade point average, occupational aspiration, number of years in agricultural education, gender, location of residence, and location of school. Career maturity was not associated with participation in SAE, employment experience, type of school in which students enroll, grade level, and parent's socioeconomic status. Recommendations for agricultural science teachers were to encourage student involvement in FFA and student exploration of job opportunities and to help students increase their career maturity. (Contains 49 references.) (YLB)

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Summary of Research

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Youth Organization and Supervised Agricultural Experience Participation as Predictors of the Career Maturity of Agricultural Education Students

Ab. Rahim Bakar and J. David McCracken

Introduction

During the high school years young people face several major developmental tasks, one of which is preparing for an occupation (Havighurst, 1972). Jordaan and Heyde (1979) have identified two problems needing to be addressed by those working with high school students. The first relates to the readiness of young people to make decisions that parents, teachers, and societies expect from them. The second concerns the need to help students develop a readiness to make decisions, since often, for administrative reasons the decisions cannot be postponed.

According to Westbrook, Sanford, Mervin, Fleenor, and Gilleland (1988), choosing an appropriate occupation for oneself has been considered as one of the hallmarks of career maturity. What is career maturity? A review of the definitions of Super (1955), Jarvis (1990), Super and Thompson (1979), Fouad (1988), Jordaan and Heyde (1979), Super and Overstreet (1960), Diley (1965), Glaize and Myrick (1984), and Crites (1964) would indicate that career maturity is the individual's readiness to make educational and career decisions that are expected of them. Career mature students, as indicated by Crites (1964), have more realistic views about the world of work. They use their greater knowledge about self and work to take more responsibility for their own career planning.

Much has been said about the career maturity of high school students in general. Most studies have shown that the level of career maturity differs from one student to another. Students have different levels of career maturity even though they possess similar characteristics.

Many high school students enroll in agricultural science classes as early as grade nine. Whether or not they choose to enroll will impact upon their career options. According to Jarvis (1990), at grade nine students have not even established a tentative career goal. It may be quite difficult to make rational decisions about curriculum when tentative career goals have not yet been formulated. Information on the career maturity of agricultural science students has been unavailable since previous studies about career maturity had not used agricultural students as a sample. Also, the influence of participation in the FFA organization and supervised agricultural experience (SAE) on career maturity had not yet been researched. Thus, this inquiry was undertaken to ascertain: (1) the level of agricultural students' career maturity, (2) the relationship between career maturity and participation in the FFA, (3) the relationship between career maturity and participation in SAE, and (4) other factors related to the career maturity of secondary agricultural students in Ohio.

Purposes and Objectives

The primary purpose of the study was to examine relationships between career maturity and participation in the FFA and between career maturity and participation in SAE programs.

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The specific objectives were to: (1) Describe agricultural students on the following characteristics: (a) FFA and SAE participation, (b) participation in extracurricular activities, (c) other related school experiences, (d) personological characteristics, and (e) level of career maturity; (2) Examine and explain the relationships between career maturity and (a) FFA and SAE participation, (b) participation in extracurricular activities, (c) other related school experiences, and (d) personological characteristics; (3) To determine the proportion of the variance in career maturity that could be accounted for by: (a) FFA and SAE participation, (b) participation in extracurricular activities, (c) other related school experiences, and (d) personological characteristics; and (4) To determine the best prediction equation for estimating the career maturity of agricultural students.

Proposed Model

A model of the factors related to the career maturity of agricultural students is presented in Figure 1. Research summarized in Bakar (1992) reported that factors related to the career maturity of secondary students could be classified under headings of Personological Characteristics, Participation in Extracurricular Activities, and Other Related School Experiences. This research also hypothesized that FFA participation and SAE participation would be positively related to career maturity.

How might FFA participation contribute to career development? The *FFA Advisors Handbook* (1975) indicated that FFA activities can: (1) foster career awareness, exploration, vocational technical preparation; (2) encourage students to become entrepreneurs; (3) encourage occupational growth through continuous counsel of the FFA advisors; (4) prepare members for adult occupational responsibilities; and (5) encourage occupational excellence and pride.

Rawls (1982) reported that research on educational and occupational benefits derived from SAE was limited. He found that parents of agricultural students perceived that SAE programs were beneficial to their children in the areas of work attitude, occupational development, and human relations. Pals (1989) reported that the five greatest benefits of SAE were: promoting the acceptance of responsibilities, developing self-confidence, providing opportunity to learn on one's own, developing independence, and learning to work with others.

Hypotheses

Two types of research hypotheses, the primary and control hypotheses were tested. Primary hypotheses were that (1) career maturity is positively related to participation in the FFA organization, and (2) career maturity is positively related to participation in SAE.

Control hypotheses were that (1) career maturity is positively related to: (a) level of participation in career development activities, (b) employment experience, (c) grade point average, (d) level of participation in extracurricular activities, (e) grade in school, (f) educational and occupational aspirations, (g) socioeconomic status, and (h) age, and (2) career maturity is related to: (a) gender, (b) location of residence, (c) type of school, and (d) location of school.

Design and Methodology

Design, Population, and Sample

The design of the study was correlational. The accessible population was high school agricultural students in Ohio who enrolled in the 1991-1992 school year. A cluster random sampling procedure was used with the teacher as the sampling unit and students taught by the teacher as the cluster. The sample size was 529. A sample of this size yields a 95% probability of a career maturity total score for the sample within 1.69 of the population score.

Instrumentation

The Career Development Inventory (Thompson, Lindeman, Super, Jordaan, and Myers, 1979) was used to assess the career maturity of agricultural students. The Career Development Inventory contains five sub-scales: career planning, career exploration, decision-making, world-of-work information, and knowledge of preferred occupation. The scores of each sub-scale, except the score of knowledge of preferred occupation were added together to produce a career orientation total scores. The career orientation total score reflects the level of student's career maturity. The reliability estimates of this inventory ranged from .82 to .87. The sub-scale, knowledge of preferred occupation, was not used because of the inappropriateness of its reading level for students in grades nine and ten.

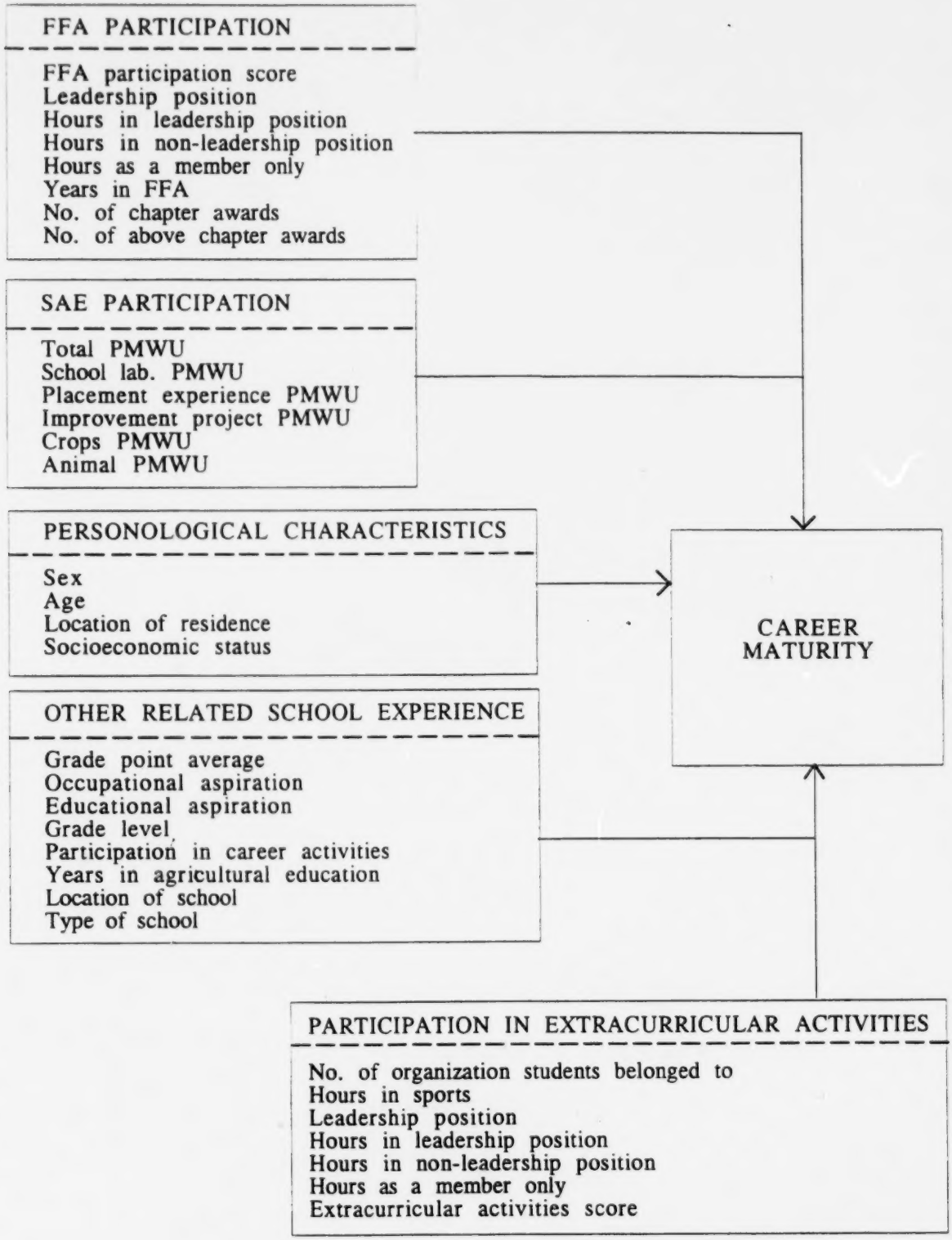


Figure 1: A Proposed Model of Factors Related to the Career Maturity of Agricultural Students

Information related to the independent variables were collected using an instrument developed by the researcher. A panel of seven experts consisting of agricultural educators in the Department of Agricultural Education at The Ohio State University reviewed the instrument for face and content validity. Following the recommendations by the panel, the instrument was improved. After changes, it was pilot tested with 30 high school agricultural students from a school that was not selected for the study. A test-retest procedure revealed a percent of agreement of 85% to 100% for most questions.

Data Collection

Data were collected from March through May, 1992. The researcher travelled to most of the selected schools to administer the Career Development Inventory. The instrument related to demographic variables was mailed to teachers at least a week before the scheduled administration of the Career Development Inventory so it could be completed in advance of the researcher's visit to the school. A total of 529 students completed the instruments; however, only 495 of the instruments were completed correctly, yielding a 93.6% usable response rate.

Data Analysis

Appropriate statistics which included frequencies, means, standard deviations, modes, medians, Pearson correlation coefficients, semi-partial correlations, multiple correlation coefficients, and Kendall Tau-C were used to describe the findings. Data were analyzed using the Statistical Package for the Social Sciences, Personal Computer version (SPSS/PC+). Dummy coding was used with nominal variables to calculate multiple correlation coefficients.

Summary of Findings

Participation in the FFA Organization

The majority (83.4%) of students who participated in the study enrolled in comprehensive high schools. More than one-half (56%) of the students had been in agricultural education for more than a year. More than one-half (56%) of them have been an FFA member for at least two years. About 65% of the students held leadership positions in the FFA organization. On the average, FFA leaders spent five hours a month in activities related to their leadership positions. The average FFA member had received two FFA awards at the chapter level.

Participation in SAE Programs

The level of a student's involvement in the SAE was determined using productive man work units (PMWUs) for: (a) school laboratory experiences, (b) placement experiences, (c) improvement projects, (d) crop projects, and (d) animal projects. A PMWU has been defined by the Agricultural Education Service, Ohio Department of Education, as the amount of work one person can normally do in one day. Standard PMWU values have been developed for each type of SAE. The PMWUs of each of the SAE projects were added together to give the total PMWU score. The PMWUs for school laboratory experiences ranged from zero to 128 with a mean of 4.99; the PMWUs for placement experiences ranged between zero and 600 with a mean of 10.62; the PMWUs for improvement projects ranged between zero and 400 with a mean of 3.74; the PMWUs for crop projects ranged between zero and 530 with a mean of 9.22; the PMWUs for animal projects ranged between zero and 600 with a mean of 9.49; and the total PMWUs ranged between zero and 647 with a mean of 35.07.

Participation in Extracurricular Activities

About 47.5% of the agricultural students participated in extracurricular activities. Some participated in as many as 15 organizations, but the mean participation rate was two organizations. About one-half of the students held leadership positions in other student organizations such as a committee member, a chairperson, or an officer. On the average, agricultural students who were leaders of other student organizations spent 9.2 hours a month in the leadership positions they held. The average agricultural student spent 8.72 hours a month in sport activities; however, most of them (60.4%) did not participate in them at all.

Work Experience

More than one-half (53%) of agricultural students worked part-time. On the average students worked 27 hours a month.

Activities

Almost all students had participated in career development activities. The participation score based on the number of activities ranged from zero to seven with a mean of 3.43.

Grade Point Average

Students' grade-point averages ranged from 0 to 4 with a mean of 2.57.

Occupational Aspiration

Students chose a variety of occupations. Most (56%) planned to enter non-agricultural jobs; 25% planned to enter agricultural jobs; and about 12% of the students had not decided regarding the occupations they were going to pursue when they finished school.

Educational Aspiration

About one-third of the students planned to get a college degree. About 26% planned to obtain education of less than a college diploma and 28% had not made any decision regarding future educational plans.

Gender and Age

Seventy-three percent of the students who participated in the study were male and 27% were female. The age of the students who participated in the study ranged between 14 and 20 years. The average was 16.2 years.

Family

Most of the students (77%) lived with both parents. The number of siblings ranged from zero to 14. About 60% of the students had 1 or 2 siblings. The mean was 2.29.

Parent's Education

About one-half of the fathers had a high school diploma only. About 9% of the fathers had a college degree, 6% of the father had an associate degree, and about 15% did not have a high school diploma. Fourteen percent of the students indicated that they did not know the level of their fathers' education. Slightly more than one-half of the mothers (56%) had a high school diploma only. Ten percent of the mothers graduated from college with either a master's or a bachelor's degree and 9% of them graduated from a junior college. About 12% of the mothers did not have a high school diploma.

Parent's Occupation and Income

The largest percentage of the fathers (21.4%) worked in jobs related to precision, production, and craft. The largest percentage of the mothers (24.3%) had a primary occupation as a homemaker. The median income for the father was $32,537. The median income for the mother was in the category of $25,000 or less.

Parent's Socioeconomic Status (SES)

The fathers' SES prestige score ranged between 15.9 and 88.3 and the mean was 30.8. The SES score for the mother ranged between 14.5 and 77.7 and the mean was 28.7. Both parents' SES ranged between 10.3 and 88.3 and the mean was 30.4.

Location of Residence

About one-fourth of the students lived in a rural non-farm area, 20% of them lived on a part-time farm, 18% of them lived on a full-time farm, 17% lived in rural town, 12% lived in a city, and 6% lived in the suburb.

Career Maturity

The publishers of the career maturity instrument report norm values by grade level. At the tenth-grade, eleventh-grade, and twelfth-grade, career orientation total mean scores of the sample of Ohio agricultural students were significantly lower than the students in the norm group. However, there was no significant difference between the career orientation total mean scores of both groups at the ninth-grade level.

Description of Relationships

Participation in FFA and Career Maturity

The following significant relationships existed between the career orientation total score and the FFA variables: (1) years in the FFA ($r = .08$), (2) leadership in the FFA ($r = .21$), (3) hours in leadership activities ($r = .11$), (4) hours in non-

leadership activities (r = .11), (5) FFA awards at the chapter level (r = .29), and (6) FFA score (r = .21).

Participation in SAE and Career Maturity

None of the SAE variables were significantly related with career maturity.

Participation in Extracurricular Activities and Career Maturity

There were some significant correlations between career orientation total score and participation in extracurricular activities variables: (1) number of other student organizations (r = .33), (2) leadership position (r = .21), (3) hours in leadership position (r = .16), (4) hours in non-leadership activities (r = .18), (5) participation as a member only (r = .08), (6) participation in sports (r = .12), and (7) extracurricular activities score (r = .28).

Related School Experiences and Career Maturity

Career orientation total was correlated significantly with these other school related experiences: (1) GPA (r = .30), (2) participation in career development activities (r = .21), (3) location of school (R = .21), (4) number of years in agricultural education (r = .08), (5) occupational aspiration (R = .36), and (6) educational aspiration (R = .39).

Personological Characteristics and Career Maturity

There were significant relationships between the career orientation total score and: (1) gender (r_{pb} = .25) and (2) location of residence (R = .13).

Discussion of Findings

Participation in the FFA Organization

Studies have been conducted in other vocational areas to determine the relationship between career maturity and participation in youth organizations such as Distributive Education Club of America (DECA) and Future Business Leader of America (FBLA). In a study to determine the relationship between participation in the FBLA and career maturity, Robbins (1978) found that participation in the FBLA correlated significantly with career maturity. In a study to determine the relationship between participation in DECA and career maturity, Connell (1978) reported that DECA members were significantly more mature than the non-DECA member in terms of (a) knowledge about the job, (b) making career choices, (c) knowledge about career preparation, and (d) making decisions.

The findings of this study supported the notion that participation in youth organizations was related to career maturity. Most measures of FFA participation investigated in this study were related with career maturity.

Participation in SAE

SAE has long been part of agricultural education in high school and still is today (National Research Council, 1988). Studies have shown that SAE was related to the achievement of the student, and has been perceived to be important for occupational development. Phipps (1980) indicated that one of the benefits of the supervised occupational experience was helping a student's career development. A study by Rawls (1982) showed that parents perceived SAE programs as beneficial to the work attitude, occupational development, and human relations of their children. Noxel and Cheek (1988) found that SAE participation was significantly related to the achievement of students in ornamental horticulture. Even though SAE was significantly correlated with academic achievement and was believed to be beneficial for occupational development, this study failed to show any significant relationship between participation in SAE programs and career maturity.

Participation in Extracurricular Activities

Previous studies had shown that participation in extracurricular activities was related to career maturity (Super and Overstreet, 1960; Crites, 1969; Vriend, 1969; & Pautler, 1988). Like those studies, the results of this study showed that participation in extracurricular activities was significantly correlated with career maturity.

Participation in Career Development Activities

Pavlak and Kammer (1985) found that the posttest career maturity scores of students who

participated in a career guidance program and students who did not participate in a career guidance program did not differ. On the other hand, Fuller (1989) found that students who enrolled in a career development course scored significantly higher on career maturity measures as compared with students who did not enroll in such courses. This study showed that there was a significant low relationship between career maturity (career orientation total) and student's participation in career development activities.

Employment Experiences

Research findings on the relationship between career maturity and employment experiences were consistent. Butler (1980) reported that work experience related significantly to career planning, one component of career maturity. Pucel, et al, (1972) reported that experience in the world of work could increase the level of a person's career maturity. Smith (1981) reported a statistically significant correlation between career maturity and work experiences. Exposure to work experiences, according to Ehresman and Vincent (1976), could improve career decision making, another aspect of career maturity. However, unlike those studies, the findings of this study showed that there was no significant correlation between career maturity and work experiences.

Grade Point Average

Franklin (1975) concluded that grade point average correlated significantly with career maturity. Franklin's finding was supported by Super and Thompson (1979), Butler (1980), Spurlock (1984), Ludmer (1988), and Jyung (1989). The findings of this study were consistent with the findings of these researchers in that a significant moderate association between career maturity and grade point average was found.

Grade Level

Moracco (1976) found a significant difference between career maturity scores of the ninth-graders and career maturity scores of the eleventh-graders. Other researchers like Watson and Aarde (1986), Achebe (1982), Piper (1985), Franklin (1975), and Mahy (1980) also reported that students in a higher grade level were more career mature than students in a lower grade. However, Fouad (1988) found that students' vocational maturity did not differ across grade levels. Consistent with Fouad's (1988) findings, this study found no relationship between grade level and career maturity.

Educational and Occupational Aspirations

According to Alvi and Khan (1983) and Jyung (1989) career maturity correlated significantly with occupational aspiration. Career maturity and educational aspiration have also been found to be related (Leavins, 1982; Alvi and Khan, 1983; & Jyung, 1989). Students who aspired to go to college were more career mature than those students who had no such aspiration (Leavins, 1982). A finding of this study which was consistent with the findings of other studies showed that occupational aspiration was correlated significantly with career maturity. A significant correlation was also observed between career maturity and educational aspiration.

Age

The literature on career maturity has shown consistently that one becomes more career mature as one gets older. Studies by Franklin (1975), Reiley (1986), and Guthrie and Herman (1982) showed that age was significantly related with career maturity. However, unlike the findings of those studies, this study of agricultural education students in Ohio showed no evidence that age was significantly related with career maturity.

Socioeconomic Status

This study showed that SES was not significantly related to career maturity. This finding was consistent with the studies by Neville and Super (1988), Howell (1988), Ludmer (1988), Crites (1978), Franklin (1975), and Crosby (1975).

Sex

This study showed that there was a moderate correlation between career maturity and sex. Female students scored significantly higher on career maturity as compared with male students. This finding was consistent with the findings by Franklin (1975), Butler (1980), Achebe (1982), and Westbrook (1984). They reported that career maturity scores for female students were significantly higher than the career maturity scores for male students. Contrary to this, Achebe (1982) found that career maturity scores of male students was significantly higher than career maturity scores of female students. However, studies by Laskin and Palmo (1983), Neville and Super (1988), and Piper (1988) showed that there was no significant correlation between career maturity and sex.

Location of Residence

There was a significant correlation between career maturity and the location of residence. Students who lived in rural areas (farms and non-farm) were more career mature than students who lived in rural town and urban areas. Jyung (1989) found that the level of career maturity of urban and rural students did not differ. Mahy (1980), and Achebe (1982) reported that urban students had significantly higher career maturity scores than rural students.

Explanation of Career Maturity Variance

Significant Variable Sets

Participation in the FFA, participation in extracurricular activities, other related school experience, and personological characteristics accounted for 37% of the variance in career maturity.

Prediction of Career Maturity

The six variables that could best predict the career maturity of agricultural students were (a) number of organizations students belonged to, (b) grade point average, (c) educational aspiration, (d) occupational aspiration, (e) school location, and (f) number of FFA awards at the chapter level.

Conclusion

Career maturity (career orientation total) is associated with participation in the FFA, participation in extracurricular activities, participation in career development activities, grade point average, occupational aspiration, educational aspiration, number of years in agricultural education, gender, location of residence, and location of school.

Career maturity (career orientation total) is not associated with participation in SAE (as measured by PMWUs), employment experience, type of school in which students enroll, grade level, and SES.

Revised Model

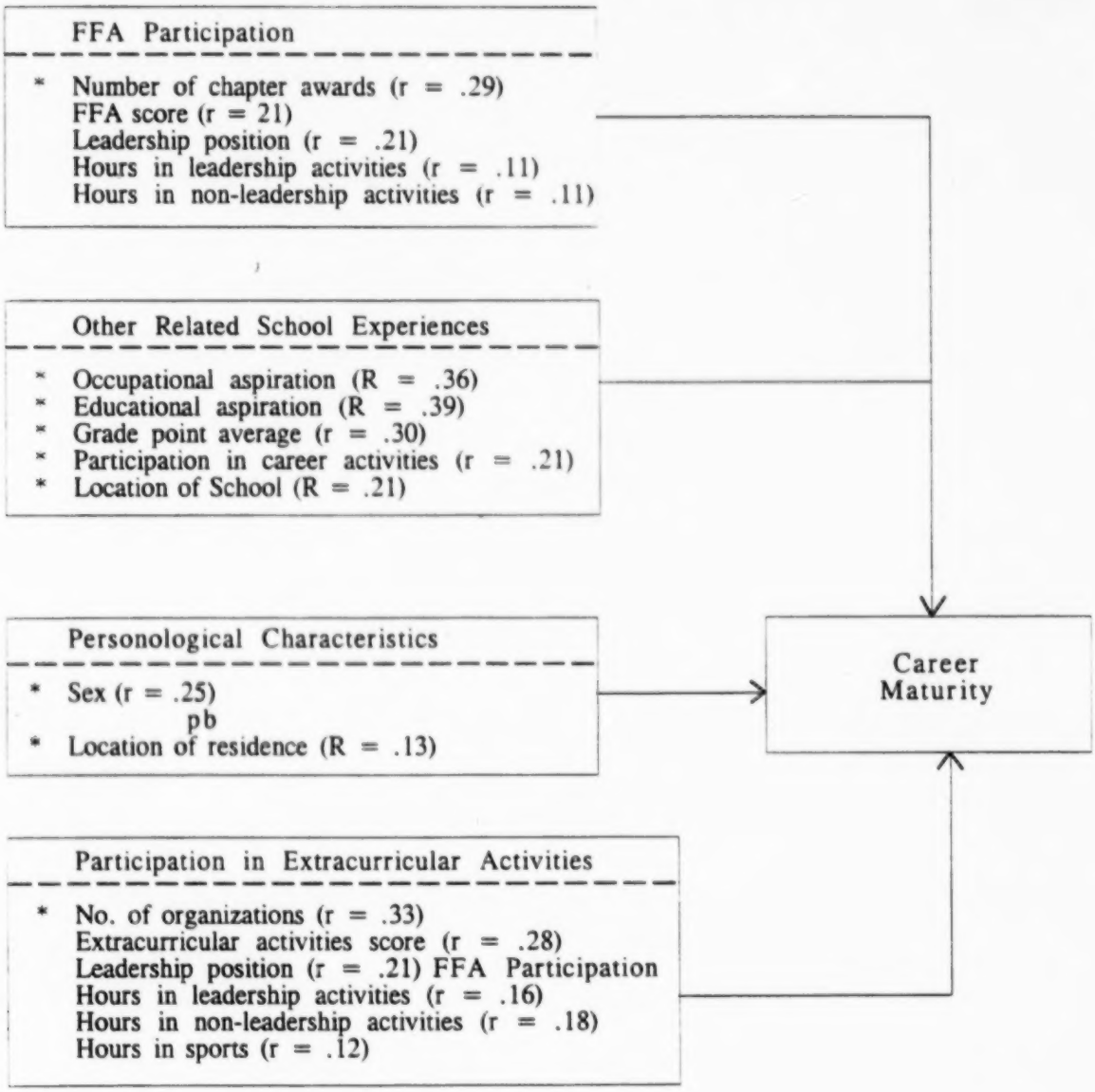
The findings of this study suggested that the earlier model of the factors related to career maturity should be revised as shown in Figure 2. Only variables significantly related to the career maturity of the sample of agricultural education students in Ohio appear in Figure 2. Support for the model may be found in the discussion of findings.

Recommendations

Based on the findings of this study, the following recommendations were offered:

Recommendations for Practitioner

1. Agricultural science teachers should encourage their students to be actively involved in the FFA organization and in other student organizations. Students should exploit the opportunities available in the FFA and other student organizations for personal development, educational development, and occupational development.
2. Agricultural teachers should incorporate teaching about the world of work in agricultural science subjects. Discussions about types of occupations, the qualifications needed, and the nature of work should be encouraged.
3. Through SAE students were expected to learn about the jobs in which they were involved. The lack of a relationship between participation in SAE and career maturity suggests a need to redesign SAE to better accomplish the career development objective. Before placing students into the SAE experiences, students should be encouraged to explore job opportunities and types of projects.
4. Literature has shown that the career maturity level of vocational students was lower than the career maturity level of students in academic programs. Yet, vocational students make the decisions that will affect their future at a much earlier time as compared with students from the academic program. Since vocational students are less career mature as compared with students from the academic program, teachers and administrators of vocational education should find ways to help vocational students become more career mature. This will help vocational students make more rational career decisions. Agricultural teachers should work closely with other teachers, school counselors, administrators, and business people in the community to provide a wide range of experiences for agricultural students.


FFA Participation
* Number of chapter awards (r = .29)
FFA score (r = 21)
Leadership position (r = .21)
Hours in leadership activities (r = .11)
Hours in non-leadership activities (r = .11)
Other Related School Experiences
* Occupational aspiration (R = .36)
* Educational aspiration (R = .39)
* Grade point average (r = .30)
* Participation in career activities (r = .21)
* Location of School (R = .21)
Personological Characteristics
* Sex (r = .25)
pb
* Location of residence (R = .13)
Participation in Extracurricular Activities
* No. of organizations (r = .33)
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Leadership position (r = .21) FFA Participation
Hours in leadership activities (r = .16)
Hours in non-leadership activities (r = .18)
Hours in sports (r = .12)
Career Maturity

Figure 2: A Revised Model of the Factors Related to the Career Maturity of Agricultural Students

* Significant semi-partial regression correlation coefficients with career maturity

5. The role of agricultural teachers is very important in helping students with their career development. Therefore, teachers should have expertise related to career development. It is suggested that all preservice agricultural teachers and other vocational teachers enroll in career or vocational guidance classes. An in-service course in career guidance or vocational guidance should be conducted to help teachers who are already on the job become competent in helping students with their career development.

Recommendations for Future Research

1. This study failed to show the existence of the relationship between SAE participation and career maturity by using the PMWUs as a measure of SAE participation. Alternative procedures for assessing student participation in SAE programs should be explored.
2. This study and other studies have shown that students' participation in SAE is somewhat low. Studies should be conducted to determine the level of participation in SAE, the implementation of SAE, factors related to SAE participation, and student perception about the importance of SAE. Follow-up studies with the high school graduates are needed to determine how SAE had helped them in their career development. As suggested by Osborne (1988), short-term and long-term benefits of participation in SAE should be continually examined.
3. A longitudinal study of the relationships between participation in SAE and career maturity and between FFA participation and career maturity should be conducted.
4. Rather than using a large sample, the researcher may want to consider using a much smaller sample. By using a smaller sample, future researchers can work closely with agricultural teachers to study in greater depth the factors influencing student involvement in SAE and FFA. One suggestion would be to analyze the SAE record book. The goal should be a more precise assessment of SAE and FFA participation.
5. Considering the low proportion of the variance in career maturity accounted for by the independent variables investigated, factors over which one has control, but have not been extensively investigated, should be explored and incorporated into the design. These factors may include the home environment, self-concept, how the subjects were taught, types of courses studied at schools, and the type of part-time job.
6. Career maturity researchers should frequently use multiple regression analysis so that the proportion of the variance accounted for by the independent variables incorporated into the study can be determined. Too often, previous studies have not gone this far. It is not enough just to determine the difference in career maturity scores and determine the relationship between career maturity and independent variables being investigated. In relation to this, future research on career maturity should include the determination of the career maturity prediction equation as one of the objectives.
7. Further research to determine why the career maturity level of agricultural students is lower than the career maturity level of students from academic programs should be conducted.
8. This study needs to be replicated in other states to determine if the findings can be generalized to all agricultural students in the United States.
9. A cross-cultural study needs to be conducted to compare the level of career maturity of agricultural students across the cultures.

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SUMMARY OF RESEARCH SERIES

During high school young people face several major developmental tasks, one is preparing for an occupation. Two problems have been identified related to high school students' decision making. The first relates to the readiness of young people to make decisions that are expected of them and the second concerns the need to help students develop a readiness to make decisions. Many high school students enroll in agricultural classes as early as grade nine. How does participation in the FFA organization and supervised agricultural experience (SAE) influence career maturity? This study reports research conducted in Ohio that examines the relationship between career maturity and participation in the FFA and between career maturity and participation in SAE programs. It should be of interest to agriculture teachers, teacher educators, and state staff.

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Research has been an important function of the Department of Agricultural Education since it was established in 1917. Research conducted by the Department has generally been in the form of graduate theses, staff studies, and funded research. It is the purpose of this series to make useful knowledge from such research available to practitioners in the profession. Individuals desiring additional information on this topic should examine the references cited.

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